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ABSTRACT

Sixteen quantitative studies concerning the adaptive behavior development (ABD) of young children in day care and home care were reviewed. The reviewed literature was grouped into three categories, namely, studies on: (1) mother and home care and ABD; (2) day care and ABD; and (3) mother and home care versus day care and ABD. Research findings were summarized using the chi-square technique. Consistent evidence was found for positive effects of mothers on the adaptive behavior development of their children. Positive results were yielded by studies on mother care and ABD and studies on mother care versus day care and ABD. The chi-square summaries revealed inconsistency in the nonsignificant studies. These data suggest that there is no difference in the effects of day care and home care on the adaptive behavior development of children. Concluding remarks note the need for further research. (RH)

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A Review of Empirical Studies on Child Development and the Effect of the Caregiver at Home and in Daycare

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Abstract

The researcher reviewed quantitative studies concerning the adaptive behavior development of very young children in daycare and home care. The findings of the empirical research were summarized using the chi-square technique.

A Review of Empirical Studies on Child Development
and the Effect of the Caregiver at Home and in Daycare

The researcher reviewed quantitative studies to address the broad issue of what promotes adaptive behavior development in very young children. The task was to find the empirical research literature which spoke to child development during the early preschool years. The review of related literature is divided into the following categories: Mother/Home Care and Adaptive Behavior Development, Daycare and Adaptive Behavior Development, and Mother/Home Care vs. Daycare and Adaptive Behavior Development. The review closes with a summary and critical analysis.

Rationale for Classification of Empirical Studies for Review

The investigator performed a search for empirical studies mainly through a computer search. The investigator located studies published and stored in two different systems (Psychological Abstracts and ERIC) using the following descriptors: preschool children, infants, mothers, parent role, parent influence, home environment, family environment, parent-child relationship, childrearing practices, family day care, day care, child care workers, child caregivers, competence, school readiness, and preschool learning. The computer searches retrieved 131 studies.

The computer search provided abstracts along with the listed studies. These abstracts helped the researcher decide whether or not each study was appropriate for the topic of interest. The studies

selected were accepted on the basis of being data-based, covering the age of interest, and of appearing to be methodologically sound.

Studies selected, in most cases, were then categorized according to dependent variables. The investigator categorized the studies on "Home/Mother Care and Adaptive Behavior Development" together because of the ability to compare dependent variables of adaptive behavior development with independent variables related to mother care or home care. Another category, "Daycare and Adaptive Behavior Development," resulted because of studies which related the dependent variable of daycare. The researcher grouped studies comparing "Mother/Home Care Vs. Daycare and Adaptive Behavior Development" because of the independent variable of home/mother care and daycare, along with the dependent variable of adaptive behavior development.

The researcher excluded a total of 115 studies from the list produced by the computer searches. Reasons for eliminating these studies varied. Some related only to the self-concept, cognitive development, verbal development, parent education, bonding, prenatal, deaf children, exploratory competence, early schooling, discipline, classroom behavior, post-partum training, syntax, screening tests, programs of educating mothers, course descriptions, women's status, and such things that did not seem pertinent to the subject of interest. Some contained no data and, therefore were eliminated. Some were unusable because they were articles summarizing other research previously found.

The total number of studies retrieved from the computer searches includes sixteen that were selected and used. Some publications were not included because some were reviews. Valuable information that was supportive was included. Further explanation of these studies in each individual category of studies will be given. A table of results, conclusions drawn, and findings will also be given for each category of studies.

To clarify the reason the following studies were chosen, it was necessary to identify or explain adaptive behavior development. Adaptive behavior development includes areas of performance of the daily activities required for personal and social sufficiency of the young child (Sparrow et al., 1984). Domains of communication, daily living skills, socialization, and motor skills are covered under the area of adaptive behavior. Studies included here relate to these domains.

In each category (Mother Care and Adaptive Behavior Development, Daycare and Adaptive Behavior Development, and Mother Care vs. Daycare and Adaptive Behavior Development) the studies are organized according to date of publication. In this way one can see from a historical perspective how one set of ideas led to another set of ideas.

Method

The results of the review of empirical studies and findings from their data will be summarized, using the chi-square technique explained by Borg and Gall (1983). The chi-square is limited as a technique because only a preponderance of evidence is considered (Ladas, 1977); the direction of results is not always clear.

Mother Care and Adaptive Behavior Development

Crandall, Preston, and Rabson (1960) studied 3-, 4-, and 5-year-old children of mothers who often rewarded help-seeking. These children sought help more frequently in the nursery school, it was observed. A significant inverse relationship was found between help-seeking and amount of free-play achievement efforts. The result in Crandall's study found direct maternal rewards of achievement efforts and approval-seeking was predictive of children's achievement behavior.

The Stevenson, Keen, and Knights (1963) study of 232 children, 3 to 5 years, was designed to determine the effects of social reinforcement on the game performance (marbles placed in a bin) of preschool children when the agents of the reinforcement were the children's parents and to compare these effects with those in the study employing strangers as experimenters. The study's prior assumptions were supported by the data. The reinforcing effectiveness of the mother generalized to other women. The father, playing a less significant role in early caregiving of children, acquired a lesser capacity for reinforcing behaviors.

Studies relating to mother care and adaptive development include two studies by Clapp (1968, 1969). These studies had 34 boys as subjects in one study and 32 girls as subjects in the other. Both studies revealed that mothers of competent children treated the child as a child rather than treating the child as if he or she were an adult.

The study by Wenar (1972) obtained observational data on twenty-six 11- to 15-month old infants when they were relatively free to choose to explore the physical environment or to initiate social interaction with the mother. Subjects chose to explore the physical environment to a

degree. A statistically significant correlation between level of executive competence and number, intensity, and duration of spontaneous social behavior was not found.

The study by Steele and Wagner (1977) assessed areas of parental competence in setting up 30 home rearing environments for children birth to three years old. Instruments were used to compare parents' knowledge of child development with parents' interactions with their children. The independent variable in the study was parental competencies in providing optimal learning environments. Results revealed that parents appear to have significantly higher competence in their understanding of childrearing at the knowledge level than they demonstrate by their behaviors in handling their children in their home situations. The investigators recognized that a need was confirmed for "action training" that involves the parent in finding ways to promote the learnings of the infant in daily situations.

In the Stevenson (1978) study, 40 middle-class mothers and their 12-month-old infants were examined on the extent to which infant sociability and infant home experiences were correlated with cognitive capacity. Results showed sociable infants had sociable mothers. Infants' reactions to strange adults clearly influenced their performance in testing situations. Strong relationships were found between measures of sociability and measures of cognitive competence. Sociable, friendly infants received higher scores on cognitive tests than did less sociable babies.

Subjects for a study by Farran and Haskins (1980) included fifty-one 3-year-old children and their mothers from two groups--low and middle SES. The independent variable in the study was the controlling behaviors of both mothers and children. The coding system focused on initiation of interaction and responses. Results indicated that middle-income dyads spent twice as much time in mutual play as did low-income dyads. Both groups engaged in about the same number of mutual play episodes, but middle-income dyads had longer episodes, because low-income mothers terminated mutual play episodes rather quickly. In middle-income dyads, mothers and children were nearly equal in initiating and terminating mutual play episodes, suggesting more reciprocity in their interacitons.

The two groups of mothers in the Farran and Haskins (1980) study did not differ on profiles of control on suggesting changes in the child's play. Both mother groups intervened when children were least involved and refrained from intervening when children were most involved. Children in both groups were equally likely to attempt to modify their mother's behavior.

An analysis of the findings on the studies classified "Mother Care and Adaptive Behavior Development" show a preponderance of positive significant results. Seven studies were positive while one was nonsignificant. There was no study found to be negatively significant. Therefore, supporting evidence is shown that mother care results in a positive contribution toward the developing child in adaptive behavior. The chi-square results were at .005 level of significance, as shown in Table 1.

Table 1

Chi-Square on Box Scoring Summaries: Mother Care and Adaptive Behavior Development

Study	p	x2	df	Effect a
Crandall (1960)	.05	5.99	2	+ MC
Stevenson et al. (1963)	.01	9.21	2	+ MC
Clapp (1968)	.05	5.99	2	+ MC
Clapp (1969)	.0005	10.60	2	+ MC
Wenar (1972)	.001	13.82	2	- MC
Steele (1977)	.025	7.38	2	+ MC
Stevenson (1978)	.01	9.21	2	+ MC
Farran (1980)	.03	6.70	2	+ MC
Totals		58.90	16	

p = .005

Subjects = 475

Note. Effect a "+" means a statistically significant effect in the predicted direction; MC means mother care.

Daycare and Adaptive Behavior Development

The Doyle and Somers (1978) study included 39 toddlers (mean age 22 months) in daycare and home/mother care, involved in daily separations from the mothers. No intellectual differences were found. Both substitute care groups played more and cried less than the home-reared group when left alone.

The Wilcox, Staff, and Romaine (1980) study included two sections of twenty 6-week- to 24-month-old infants assigned to an individual (1 caregiver to every 4 infants) or to multiple caregivers (5 caregivers to 20 infants). Results showed no difference between the two systems of care. Results indicated that the quality of care depends more on factors such as staff training and turnover, group size, and total number of caregivers, rather than on the single factor of method of assigning children to caregivers.

The investigator found no significance concerning daycare situations and socio-emotional development in both of the following studies: Doyle and Somers (1978) and Wilcox et al. (1980). Analysis of the findings revealed by the chi-square on the studies classified "Daycare and Adaptive Behavior Development" in Table 2, reveals no positive significant studies. The same table reveals one positive nonsignificant finding and one study showing negative significant effects of daycare on adaptive behavior development of young children. However, the results show an overall significance level of .025, which means that there is a significant relationship for the studies taken as a whole. The pattern of results failed to reveal a preponderance of the evidence in either direction.

Table 2

Chi-Square on Box Scoring Summaries: Daycare and Adaptive Behavior Development

Study	*p*	x2	df	Effect *b*
Doyle (1978)	.11	4.61	2	NS +
Wilcox et al. (1980)	.05	5.99	2	NS -
Totals		10.60	4	

p = .025

Subjects = 59

Note. Effect *b* "NS+" means nonsignificant effect in the predicted direction; "NS-" means nonsignificant effect in the opposite direction.

Mother-Care vs. Daycare and Adaptive Behavior Development

Fowler (1972) studied 39 daycare infants and matched home-reared controls over a 3-year period on socio-emotional, cognitive and motivational development. Fowler noted gains in daycare on IQ and mental development for advantaged infants; no gains appear in either infants in daycare on motor development. Concerning general emotional tone, responsiveness to objects, goal directedness, reactivity to stimulation, signts-looking, and manipulation (exploring)--neither the disadvantaged infants nor home controls showed significant changes, but advantaged subjects did.

The purpose of the Blehar (1974) study was to compare home-reared children with those in a daycare setting on several variables. The study used 40 middle-class children around 25-39 months of age. Among findings were those showing oral behavior (crying/thumbsucking) more conspicuous in daycare children than in home-reared children ($p < .0005$). Apparently, the oral behavior resulted from anxiety over the mother's absence. Also, the oral behavior was compounded by the appearance of the stranger when the mother was expected to return. Blehar also found daycare children resisted the mother more than home-reared children. Proximity-avoiding behaviors upon reunion were also more conspicuous in children of daycare than in home-reared and most markedly in the younger daycare group ($p < .0005$).

Fowler and Kahn (1976) investigated over a five-year span a sample of 60 infants, 6-18 months of age at entry, in daycare and home care. Findings suggest that multiple adult-child and peer relations in daycare facilitate development as well as home care alone during infancy.

The Mayall and Petrie (1977) study observed the quality of care by 39 caregivers and 28 mothers in London on 40 two-year-old girls and boys. Results revealed the caregiver quality of care unacceptably low. Few caregivers were motivated primarily by a concern for children. Forty percent looked after more children than they were licensed for. Some caregivers were unwell or depressed. Only one-third provided adequate age-appropriate toys. Children were often kept inside on fair days. Eighty-five percent of the children were below average in their language development. During interview sessions the mothers and children frequently interacted, but caregivers and children interacted infrequently.

The Mills (1978) study concerned relationships between 60 mothers and their high-risk infants. The investigator found significant differences in the comparison between the home group and the daycare group. The differences were in favor of the home-reared group in both mother/infant vocalizing together and on total infant vocalization ($p < .006$).

The Rubenstein and Howes (1979) study compared 2 matched groups of 18-month-old infants (30 S's) on social interaction and play behavior in daycare and home care. Findings reveal more adult-infant play, tactile contact, and reciprocal smiling in daycare. More infant verbal responsiveness with maternal talking, more infant crying, and more maternal restrictiveness were found at home. Play with toys was higher in daycare as associated with peer interaction. Peers emerged as important as social objects for toddlers and seemed to contribute to higher levels of play, as well as to facilitate separation from adult caregivers.

The studies on Mother Care vs. Daycare and Adaptive Behavior Development reveal one positive significant study, two for daycare showing no difference in daycare and home care, and negative significance in three studies for daycare. Therefore, it appears that no preponderance of evidence (Ladas, 1977) can be seen in either direction on this issue even though a chi-square reveals significance at the .005 level (see Table 3).

Concluding Remarks

Based upon the results of the chi-square summaries across all the various categories of studies, there appear to be some consistency and some inconsistency. Some consistent evidence is found for positive effects of mothers on the adaptive behavior development of their children. Also positive results are shown from categories of studies on Mother Care and Adaptive Behavior Development as well as on the comparison of Mother Care vs. Daycare. Other studies have shown some negative effects of daycare on adaptive behavior development.

The chi-square summaries reveal inconsistency, however, in the nonsignificant studies. These data suggest that there is no difference in the effects of daycare and home care on the adaptive behavior development of children. However, the direction of the effect is coded along with the nonsignificance in the tables. The disadvantage of the chi-square technique must be noted again. The chi-square does not take into account the direction of the effect. This is why Ladas' (1977) idea of preponderance of the evidence is important for determining whether there is a pattern that clearly supports the influence of the independent variable.

Table 3

Chi-Square on Box Scoring Summaries: Mother Care Vs. Daycare and Adaptive Behavior Development

Study	p	x2	df	Effect c
Fowler (1972)	.05	5.99	2	+ DC
Blehar (1974)	.0005	10.60	2	+ MC
Fowler (1976)	.01	9.21	2	+ DC
Mayall et al. (1977)	.005	10.60	2	+ MC
Mills (1978)	.006	10.60	2	+ MC
Rubenstein et al. (1979)	.01	9.21	2	+ DC
Totals				

p = .005

Subjects = 308

Note. Effect c: "+ MC" means favors Mother Care
"+ DC" means favors Daycare

The chi-square summaries show consistency, however, saying that the differences were statistically significant when taken as a whole. Results gave p = .005, .025, and another .005 across the varying classifications.

Implications for Further Research

There have been very few studies in the area of research on adaptive behavior development, especially socio-emotional domain. For example, only three studies, based on a total of 71 subjects, concerning socio-emotional development and daycare were found from the computer searches in this investigation.

Studies comparing daycare and home/mother care in relation to adaptive behavior development/socio-emotional aspect were also few in number. Only seven studies were found, based on 297 subjects. Mother/home care had thirteen studies in the area of adaptive/socio-emotional development based on 1350 subjects. Thus, the lack of research studies on adaptive behavior development indicates the need for further investigation.

More studies are needed for conducting the investigation in natural situations. According to Bronfenbrenner (1979), research should be done in natural situations rather than strange, or contrived, situations. H. Robinson and N. Robinson (1971) state that there is a dearth of studies on socio-emotional development because of a lack of well-standardized instruments to assess this kind of development.

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